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July 21, 1845. (Adjourned Extra Meeting.)

SIR WM. R. HAMILTON, LL.D., President, in the Chair.

READ,—The following Resolution of Council, passed on 16th July, 1845 :

“ RESOLVED,—That at the Adjourned Meeting of the Academy, summoned for Monday, 21st July, it be recommended to the Academy to authorize the Treasurer to sell Stock to the amount of £400 sterling, for the purpose of discharging existing liabilities.”

RESOLVED,—That the Academy do approve of and adopt the recommendation of Council, as now read ; and that the Treasurer be authorized to sell Stock to the amount of £400, for the purposes described.

Mr. PETRIE, V. P., having taken the Chair, the President continued a paper on the Applications of Quaternions to some Dynamical Questions.—See *Appendix*, No. III.

The President having resumed the Chair, the Rev. Charles Graves read the following paper on two methods of solving Biquadratic Equations.

I.—An equation being supposed to have a pair of imaginary roots, $a + \sqrt{-1}.b$ and $a - \sqrt{-1}.b$, if we diminish all its roots by the quantity a , the transformed equation would plainly have two roots differing only in their signs. This consideration suggested the following mode of solving the biquadratic equation,

$$x^4 + A_2x^2 + A_3x + A_4 = 0. \quad (1)$$

Let its roots be diminished by a , a quantity to be determined by the condition that the transformed equation, found by substituting $y + a$ for x , shall have two roots which differ only in